DOCUMENT RESUME

ED 384 091 CS 508 960

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TITLE Uncertainty Reduction during Initial Interaction: How Do People Get To Know Each Other?
PUB DATE May 95
NOTE 31p.; Paper presented at the Annual Meeting of the International Communication Association (45th, Albuquerque, NM, May 25-29, 1995).
PUB TYPE Speeches/Conference Papers (150) -- Reports - Research/Technical (143)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Communication Research; Communication Skills; Higher Education; *Interpersonal Communication; Interpersonal Relationship; Student Attitudes; Undergraduate Students
IDENTIFIERS *Conversation; Uncertainty Reduction

ABSTRACT

A study examined the trajectory of uncertainty about a partner (target uncertainty) and uncertainty about what to say and do (conversational uncertainty) during initial interaction, those factors of the interaction which impact uncertainty, and the extent to which uncertainty reduction is mutual and collects around "critical events." Subjects, 42 opposite-sex dyads consisting of undergraduates enrolled in communication courses at a large southwestern university, met for four minutes and provided pre- and post-conversation measures of uncertainty as well as an indication of the cues that influenced their uncertainty. Subsequent analyses revealed that target uncertainty was significantly higher than conversational uncertainty at the onset of the conversations and, although the margin decreased, remained higher across the interaction. Uncertainty reduction did not appear to be associated with specific information-seeking strategies; in fact, uncertainty reduction was often synchronous across partners. Instances of synchrony generally involved reduction of target uncertainty by one partner and reduction of conversational uncertainty by the other may be linked to the discovery of common ground, which participants also identified as an important step in reducing uncertainty. (Contains 40 references and four tables of data.) (Author/RS)

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Running head: UNCERTAINTY REDUCTION DURING INITIAL INTERACTION

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Uncertainty reduction during initial interaction:

How do people get to know each other?

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May 1995

Paper presented at the annual convention of the International Communication Association, Albuquerque, NM.

CS508960

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Abstract

This study examined (1) The trajectory of uncertainty about a partner (target uncertainty) and uncertainty about what to say and do (conversational uncertainty) during initial interaction, (2) those factors of the interaction which impact uncertainty, and (3) the extent to which uncertainty reduction is mutual and collects around "critical events." Forty-two opposite-sex dyads met for four minutes and provided pre- and post-conversation measures of uncertainty as well as an indication of the cues that influenced their uncertainty. Subsequent analyses revealed that target uncertainty was significantly higher than conversational uncertainty at the onset of the conversations and, although the margin decreased, remained higher across the interaction. Uncertainty reduction did not appear to be associated with specific information-seeking strategies; in fact, uncertainty reduction was more often seen to be a function of partner activity. Finally, uncertainty reduction was often synchronous across partners. Instances of synchrony generally involved reduction of target uncertainty by one partner and reduction of conversational uncertainty by the other may be linked to the discovery of common ground, which participants also identified as an important step in reducing uncertainty.

Uncertainty reduction during initial interaction: How do people get to know each other?

Berger and Calabrese (1975) have argued that, "when strangers meet, their primary concern is one of uncertainty reduction or increasing predictability about the behavior of both themselves and others in the interaction" (p. 100). These authors hypothesize that, in order to reduce their uncertainty, initial interactants engage in high levels of information-seeking. To the extent that such attempts are unsuccessful, conversation is presumed to remain effortful and, in extreme instances, only marginally coherent (Berger, 1986). Moreover, if persons are unable to "get to know" each other, the likelihood they will develop a more enduring relationship may be reduced since high levels of uncertainty are posited to induce low levels of liking (Berger & Calabrese, 1975).

Previous studies of initial interaction have yielded inconsistent and generally weak support for uncertainty reduction theory (for reviews, see Clatterbuck, 1979; Sunnafrank, 1986). In particular, although high levels of question-asking are common when persons first meet, there appears to be no straightforward relationship between such information-seeking and uncertainty. The usefulness of Uncertainty Reduction Theory (URT) is limited, too, because significant features of the theory have received minimal attention. Most especially, although uncertainty (reduction) is presumed fundamental to acquaintanceship, few efforts have been made to measure strangers' attributional confidence, so that there remains considerable ambiguity about the way in which uncertainty functions when persons first meet. In general, the present inquiry was designed to yield insight into (1) the trajectory of uncertainty during initial interaction, (2) those factors that influence initial interactants' uncertainty, and (3) the extent to which uncertainty reduction is mutual and collects around "critical events" when persons first meet.

The Status of Uncertainty Reduction Theory

Central to URT is the assertion that uncertainty reduction dominates preliminary conversation. That is, while strangers may occasionally seek to remain opaque (Berger & Bradac, 1982; Berger & Kellermann, 1985), uncertainty reduction is presumed typical of initial interaction and is seen to accrue from actors' strategic use of talk, especially question-

asking and disclosure (Berger, 1979; Berger & Bradac, 1982; Berger, Gardner, Parks, Schulman, & Miller, 1976).

Few studies have indexed uncertainty directly and those that have provide limited information about uncertainty during initial conversation. Clatterbuck (1976, studies 10 and 11) measured persons' uncertainty before and after interacting with a partner and although, in both studies, the post-conversation scores were lower, there is no indication that the decreases exceeded chance levels. More important for URT, the analyses do not disallow the argument that partners' attributional confidence increased as a function of molar visual cues apparent upon introduction and then became stable, that is, uncertainty reduction, even if statistically significant, may have been independent of question-asking and disclosure. Gender and ethnicity, for example, exert a strong influence on attraction (Duck & Craig, 1975) and may imply specific behavioral choices by both partner and self, thereby affecting strangers' uncertainty as well. In a more recent analysis, Douglas (1990) used a between-subjects design in which actors' uncertainty was measured at the close of a two, four, or six minute conversation. While uncertainty scores were significantly lower among persons who interacted for six minutes than those who met for shorter periods, the inquiry did not include a common baseline (i.e., pre-interaction) measure of uncertainty so that, again, the trajectory of uncertainty across initial interaction and the extent to which uncertainty and talk covary remain unclear. Finally, Douglas (1994) assessed strangers' uncertainty before they had seen each other, after seeing each other but before talking, and again after they had interacted. This analysis showed that persons' attributional confidence changed minimally between pre- and post-observation but increased sharply by the close of conversation, indicating that uncertainty reduction occurs during interaction although, once more, the nature of that change remains obscured.

At the center of URT is the proposed causal conjunction between uncertainty and information-seeking; specifically, high levels of uncertainty are presumed to induce high levels of information-seeking and, as uncertainty decreases, information-seeking is posited to decrease (Berger & Calabrese, 1975, axiom 3). During initial interaction, information about a partner is posited to derive primarily from question-asking and disclosure (Berger, 1979; Berger & Bradac, 1982; Berger et al., 1976). Interrogation provides an efficient means of

acquiring information about others but, because sequence norms limit the number (Berger et al., 1976) and the intimacy of information requests (Gardner, 1976), persons are presumed to invoke less direct strategies as well. In particular, Berger (1979) has argued that strangers routinely self-disclose since disclosure of even mundane information can induce similar disclosures from a partner. Hence, the axiomatic relationship proposed by Berger and Calabrese (1975) can be rewritten: High levels of uncertainty cause increases in question-asking and disclosure; as uncertainty levels decline, question-asking and disclosure decrease.

Gudykunst and his colleagues have tested this proposition repeatedly and have consistently reported either no conjunction (Gudykunst & Nishida, 1984) or a positive relationship between attributional confidence and both question-asking and disclosure (Gudykunst, 1985; Gudykunst, Sodetani, & Sonoda, 1987; Gudykunst, Yang, & Nishida, 1985), suggesting that information-seeking increases as actors become less uncertain about each other. Although this research may confound amount of information-seeking and intimacy of information-seeking (Douglas, 1990), other analyses have failed to support URT. Douglas, (1994), for example, reported low and non-significant correlations between uncertainty and both question-asking and disclosure across a four-minute initial conversation. Additionally, a series of studies designed to test the effects of anticipated future interaction (Donzella, 1988; Douglas, 1987; Kellermann, 1986), a situation in which persons are presumed to become preoccupied with uncertainty reduction (Berger, 1979; Berger & Bradac, 1982), have failed to yield any indication of linkage between uncertainty and information-seeking. Hence, while there is evidence that uncertainty decreases during initial interaction (Douglas, 1994) and while there is evidence that direct information-seeking, at least, decays across simulated (Frankfurt, 1965) and actual preliminary conversation (Berger & Kellermann, 1983; Douglas, 1987), there is no evidence that the processes are linked, certainly not in ways posited by URT.

Uncertainty Reduction Theory as a Model of Initial Interaction

Berger and Calabrese (1975) argue that strangers seek to reduce their uncertainty about a particular partner in order to select from their "own available response alternatives those which might be most appropriate to the predicted action of the other" (p. 100). That

is, during initial interaction, persons are assumed to design their actions to fit specific partners. What is more, subsequent tests of URT, particularly those involving question-asking and disclosure, have relied upon correlation analysis so that, although it is not an explicit part of the theory, the hypothesized relation between uncertainty and information-seeking is tacitly assumed to be linear.

However, recent research suggests that strategic relational action, including action associated with uncertainty reduction, derives from more comprehensive social planning. Examination of actors' "date-getting" plans, in particular, has repeatedly revealed discrete sub-routines associated with both own interest displays and assessment of a partner's affective evaluations as well as more affectively neutral procedures like seeking information from third parties (Berger, 1987, 1988; Berger & Bell, 1988; Berger & di Battista, 1993). What is more, social planning is often case-based (Hammond, 1989a, b; Riesbeck & Schank, 1989) so that, during relationship development, for example, actors are predisposed to rely upon hypothetical episodes and ensembles of episodes drawn from memory (Berger & Jordan, 1989). In fact, while actors might be expected to revise plans, especially when plans fail, planners seem "simply to retrieve the experience and to copy uncritically what they have done previously" (Berger & Jordan, 1989, p. 21).

Such research suggests that, when persons first meet, they are unlikely to base their performance upon concurrent contextual cues as is assumed by URT. This is not to claim that initial interactants are insensitive to specific partners in an enduring way. Common sense tells us that we do not always progress through acquaintanceship in the same way; we do not always talk about the same topics or develop topics in the same way or pursue the same relational outcomes. However, it does appear reasonable to suppose that acquaintanceship is a function of well-rehearsed, generic action sequences as well as persons' knowledge of particular partners. It also appears reasonable to suppose that the influence of generic action is especially strong at the beginning of conversation when knowledge of a particular partner is low and unstable.

Prior analyses of uncertainty (reduction) during acquaintanceship have commonly examined the linear correlation between measures of persons' uncertainty and information-seeking (see, for example, Douglas and Gudykunst and his colleagues). This approach

implicitly assumes that all information-seeking attempts contribute equally, or at least approximately equally, to uncertainty reduction (i.e., a set amount of uncertainty is associated with a specific number of questions or disclosures). Instead, when persons first meet, it is more likely, first, that some information has a profound influence on actors' attributional confidence whereas the effects of other information are comparatively trivial; and, second, while some information serves to reduce interlocutors' uncertainty other information may be judged incomplete or inconsistent with previously accrued information and, so, may increase persons' uncertainty. That is, it appears probable that uncertainty reduction occurs in an uneven way across acquaintanceship.

Uncertainty During Initial Interaction: An Exploratory Analysis

The present analysis was designed, first, to provide insight into the trajectory of uncertainty across initial interaction. A distinction was made between uncertainty about a partner (target uncertainty) and uncertainty about what to say and do (conversational uncertainty). Although Berger and Calabrese (1975) argue that uncertainty about a partner influences performance (i.e., actors are motivated to "get to know" others so that they can select the most appropriate strategies from their own behavioral repertoire), target uncertainty and conversational uncertainty need not covary. During the entry phase of acquaintanceship, in particular, persons may be acutely uncertain about a partner but quite certain about how to behave and what to say. Further, while persons are likely to become generally more certain about a partner as interaction progresses (Clatterbuck, 1976; Douglas, 1990, 1994), the trajectory of persons' conversational uncertainty is less clear. Sequence norms become less compelling across initial interaction and, so, inform actors' conversation performance in a more muted way. Moreover, some persons report that they often "run out of things to say" when they first meet others (Douglas, 1990), suggesting that actors' uncertainty about what to say and do may increase during acquaintanceship.

RQ1: What is the trajectory of target uncertainty during initial conversation?

RQ2: What is the trajectory of conversational uncertainty during initial conversation?

H1: Target uncertainty is significantly greater than conversation uncertainty at the outset of initial interaction.

H2: Compared to target uncertainty, conversational uncertainty increases significantly more often during initial interaction.

H3: The discrepancy between target and conversational uncertainty decreases across initial interaction.

The study was designed, as well, to yield insight into the factors that influence strangers' uncertainty. More specifically, the research sought to determine the factors that interlocutors identify as important to uncertainty reduction. URT proposes that strangers invoke question-asking and disclosure to find out about others (Berger, 1979; Berger & Bradac, 1982). That is, URT implies a traditional attribution model in which persons are presented as naive scientists seeking out information about conversation partners. Although analyses of question-asking and disclosure have provided little evidence that uncertainty is associated with the amount of strangers' information-seeking, it is possible that persons act in ways that are generally consistent with URT but that specific questions and disclosures contribute unevenly to uncertainty reduction. That is, like proficient interpersonal detectives, persons may rely on a few "big" questions or disclosures as they seek to "get to know" others. Such questions and disclosures might remain hidden from researchers, especially to the extent that research focuses upon information-seeking in general (i.e., uses some form of aggregate scores).

Alternatively, it is possible that uncertainty reduction is, in part at least, a passive (i.e., donor-driven) process. Although Berger (1979) has argued that disclosure of even mundane information can induce similar disclosures from a partner, disclosures clearly do not demand a particular response and, while some questions (e.g., what's your name?) probably compel a specific and limited answer, most questions allow multiple replies especially if, as is common, persons provide more than a minimal response; persons may explain why they are majoring in Political Science, indicate that they changed their major from Sociology, remark that they need fifteen hours to graduate, or disclose that they intend to go on to Law School, none of which is mandated (or even sought) by the

question, "What's your major?". That is, much of the information that persons acquire about others may be related only indirectly to their own question-asking and disclosure.

RQ3: What factors influence uncertainty reduction in significant ways? Specifically, does uncertainty reduction rely upon (a) particular (key) information-seeking efforts and/or (b) information "donated" by the partner?

Finally, the present inquiry was designed to provide insight into the extent to which uncertainty reduction is synchronous (i.e., both partners' uncertainty changes at or near the same point in the interaction). Minimally, uncertainty reduction is presumed to be mutual (Berger & Bradac, 1982; Berger & Calabrese, 1975) and, what is more, is seen to occur in a broadly synchronous way across initial interaction. Berger and Calabrese (1975), for example, argue that, "it seems reasonable to assume that the easiest way in which to reduce mutual uncertainty would be to ask for and give the same kinds of information at the same rate of exchange" (p. 105). According to these authors, the need for immediate symmetry diminishes as relationships develop so that, in well established relationships for example, partners are allowed to select and develop topics in an essentially independent way. When persons first meet, however, conversation is posited to follow a much stricter model in which uncertainty reduction is mutual and proximate across partners.

H4: During initial interaction, uncertainty reduction is synchronous; that is, both partners' uncertainty changes at or near the same point in the interaction.

Methods

Participants

Participants were 42 female and 42 male undergraduates enrolled in communication courses at a large southwestern university. Participants ranged in age from years 18 to 39 years ($M=23.15$, $SD=4.59$). Participation in the study, which was conducted outside of regular class meetings, was voluntary. Persons were awarded course credit for their involvement.

Procedures

Persons were required to sign-up for a study that would occur over "several days." Participants were paired randomly with an opposite-sex partner they had not met before and, in order to ensure they remained unknown to each other, dyad members were directed to report to different rooms. Each partner was met by a research assistant and was told s/he was to take part in a study concerning impression-making and would be required to engage in several conversations with the person with whom s/he had signed-up. Although persons actually engaged in only one conversation, they were induced to expect multiple meetings in order to avoid potentially unusual behavior associated with situations in which interactants expect not to meet again (Berger, 1979).

Participants were then provided a short booklet that contained measures of target uncertainty (Clatterbuck, 1979) and conversational uncertainty (Douglas, 1991), together with ten distractor and two demographic items. The items were presented in the same randomly generated order to all participants and each item was presented with an appropriate 7-point bipolar scale (e.g., not at all confident/extremely confident).

After completing the booklet, each participant was escorted to the room where the conversations were to take place. When both members of a dyad were present, they were informed that their conversation would be tape-recorded (the tape recorder was in open view) and would remain confidential. These instructions were presented in writing and, again, orally. When persons indicated they understood, they were left alone to become acquainted.

Persons were allowed to talk for four minutes. Four minutes was selected because the focus of the study was the entry phases of interaction and, moreover, previous research has shown that, during initial interaction, question-asking rate, a common index of information-seeking, decays rapidly across the first four minutes of conversation but, then, becomes stable (Douglas, 1987). After four minutes, the conversations were halted and persons were taken to separate rooms where they were required to indicate again their target and conversational uncertainty. Again, the items, including ten distractor items, were presented in the same randomly generated order to all participants and each item was presented with an appropriate 7-point bipolar scale. Persons were also asked to list those things that had increased or decreased their uncertainty about (1) their partner and (2) what

to say and do. Persons were encouraged to think about things that they and/or their partner had done or said as well as aspects of the situation. When they had completed this phase of the study, participants were thanked and asked to return the following day.

When persons returned, they were provided with two transcribed copies of their conversation, a cassette tape of the conversation, and a cassette player. Partners were taken to separate rooms where they were required to indicate their target and conversational uncertainty across the course of their interaction. The sequence of these tasks was counterbalanced so as to avoid order effects. Nonetheless, both tasks were performed in the same general way. First, persons were asked to indicate on 25-point scale (high values reflected high levels of certainty) "how certain you were about your partner at the beginning of your conversation; that is, how confident were you that you knew his/her beliefs, values, attitudes, goals, and experiences" (or "how certain were you about what you were going to say and do"). Persons were next asked to indicate their certainty at the end of the conversation. Finally, persons were instructed to show on the transcript where and how their certainty had changed during the interaction; to do this, persons wrote on the transcript the number (on the 0-25 scale) that best represented their "new" feelings at the point where they felt their certainty had changed. When both partners had completed both tasks, they were debriefed.

Results

Measurement Reliability

Uncertainty. Participants' target and conversational uncertainty during the interaction were assessed through single-item measures. Because such measures are notoriously unreliable (Poole & McPhee, 1985), uncertainty was measured in more conventional ways prior and subsequent to interaction. Clatterbuck's (1976) CL7 scale was used to measure participants' uncertainty about their partner and a revised version of the scale used by Douglas (1991) was used to assess their uncertainty about what to say and do during initial interaction. The internal reliability of these instruments at each of the two measurement opportunities was .85, .85, and .88, .85 respectively. The correlations between the single-item measure of target uncertainty and persons' score on the CL7 scale were .46 prior to

interaction and .55 after interaction; the correlations between the single-item measure of conversational uncertainty and persons' score on the broader measure of uncertainty about what to say and do were .40 prior to interaction and .53 after interaction. That is, single-item baseline and outcome scores were generally consistent with the corresponding scale-based scores. On this basis, the single-item measures were used to construct target and conversation uncertainty scores during interaction. In order to do this, marks were placed in the transcription of each conversation to show one-minute intervals. Persons' level of uncertainty was assessed at the end of each minute (for both target and conversation) and was taken to be equal to the last score recorded in that minute. In this way, five target uncertainty and five conversation uncertainty scores were generated for each participant.

Factors affecting uncertainty. The factors that persons indicated affected their target or conversational uncertainty were coded separately regarding their locus (self, partner, dyad, or context/situation) and form (verbal, nonverbal, attribute/skill). For example, the response, "we talked about school," was coded as dyad-verbal while the response, "she was friendly," was coded as partner-attribute/skill. This phase of analysis involved two independent coders; the rate of inter-judge agreement was .98 (number of agreements=294, number of decisions=299; see Table 1).

Insert Table I about here

Because of the special significance of conversational cues to the present analysis, factors placed in the "verbal" category were coded into more specific groupings. Preliminarily, this was achieved by a single coder who worked iteratively through the cues and collected them on the basis of similarity into seven categories (see Table 2). Two judges were then provided with the conversational cues (n=134) together with brief category descriptions and required to assign each cue to a single category. The judges were told to keep separate any cue they felt could not be classified appropriately. Interjudge agreement on this task was .99 (number of agreements= 132, number of decisions= 134) and both judges classified all cues.

Insert Table 2 about here

Uncertainty During Initial Interaction

The first research question was directed toward the trajectory of target uncertainty during initial conversation. In order to address this issue, participants' five target uncertainty scores (initial uncertainty, uncertainty at the end of minutes 1, 2, 3, and 4) were entered as the dependent variables in a repeated measures MANOVA.

Insert Table 3 about here

This analysis showed that persons' uncertainty about their partner changed significantly across time, Wilks' lambda=0.25, $F(4, 80)=60.48$, $p<.001$. Further examination showed a significant linear trend, $F(1, 83)=232.84$, $p<.001$, a significant quadratic trend, $F(1, 83)=23.32$, $p<.001$, and a significant cubic trend, $F(1, 83)=6.56$, $p<.015$. As the scores presented in Table 3 indicate, participants' target uncertainty was acute at the outset of conversation ($M=21.05$ on a 25-point scale) but decreased sharply across the first minute of the meeting. Target uncertainty continued to decay across subsequent interaction segments although the slope of the decay became less steep.

The second research question concerned the trajectory of conversational uncertainty during initial interaction. In order to investigate this issue, participants' five conversational uncertainty scores (initial uncertainty, uncertainty at the end of minutes 1, 2, 3, and 4) were entered as the dependent variables in a repeated measures MANOVA. This analysis showed that persons' uncertainty about what to say and do changed significantly across time, Wilks' lambda=0.54, $F(4,80)=17.18$, $p<.001$. Further examination showed a significant linear trend, $F(1, 83)=65.25$, $p<.001$, although none of the non-linear trends were statistically significant (F values=.06,.04, and 1.43). As the scores presented in Table 3 indicate, participants' conversational uncertainty was moderate at the beginning of the interaction ($M=11.69$ on a 25-point scale) and decreased in an essentially linear way across the meeting.

The first research hypothesis predicted that, at the outset of interaction, persons' target uncertainty would be significantly greater than their uncertainty about what to say and do. In order to test this hypothesis, participants' initial target and conversational uncertainty scores were entered as the dependent variable in a correlated t-test. This analysis showed that the two scores differed significantly, $t(83) = 11.14$, $p < .001$. More specifically, participants' target uncertainty was significantly greater than their uncertainty about conversation behavior (see Table 3).

The second research hypothesis predicted that, across initial interaction, persons' uncertainty about what to say and do increases significantly more often than their uncertainty about a partner. Because preliminary analysis revealed that participants' conversational uncertainty changed significantly more frequently than their uncertainty about the partner, mean "target" score=5.20, mean "conversation" score=7.21; $t(83)=4.39$, $p < .001$, the increase scores were expressed as proportions (e.g., number of increases in target uncertainty divided by total number of changes in target uncertainty). These scores were entered as the dependent variable in a correlated t-test. This analysis showed that uncertainty about conversation behavior increased significantly more often than uncertainty about the partner, mean "target" score=.112, mean "conversation" score=.305; $t(83)=6.74$, $p < .001$.

The third research hypothesis predicted that the difference between target and conversation uncertainty would decrease across the course of initial interaction. In order to test this hypothesis, five difference scores were computed for each participant. These scores reflected the difference between participants' target and conversational uncertainty at the beginning of conversation, at the end of the first minute of conversation, at the end of the second minute of conversation, and so on. The difference scores were entered as the dependent variable in a repeated measures MANOVA. This analysis showed that the scores changed significantly across time, Wilks' lambda=0.75, $F=(4, 80)=6.84$, $p < .001$. Subsequent comparison of adjacent scores revealed that the difference between participants' target and conversation uncertainty was significantly less at the end of the first minute of conversation than when conversation began, $F(1, 83)=17.49$, $p < .001$, but did not change significantly across subsequent contiguous segments (F values=.15, 2.18, and .19).

Factors that Influence Uncertainty During Initial Interaction

The third research question dealt with the factors that affect uncertainty, particularly the role of persons' own information-seeking and a partner's information provision. This part of the analysis focused on the influences identified by participants and summarized in Tables 1 and 2. As these data indicate, participants rarely invoked themselves as an important factor in uncertainty reduction (n= 17, .057 of total references) and, when they did, were just as likely to define themselves as a source of increased uncertainty (n=9) as decreased uncertainty (n=8). Participants were substantially more likely to identify the dyad (n=74, .247 of total references) and the partner (n=180, .602 of total references) as significant influences on their uncertainty. Whereas the dyad was more likely to be seen as important to persons' conversational uncertainty (n=55, .184 of total references) than to their target uncertainty (n= 19), the role of the partner was comparatively consistent across those contexts (n=95 and 85 respectively). The situation was mentioned with some regularity (n=28) and, almost always, was seen as a cause of increased uncertainty (n=24).

Examination of the form of the influence (i.e., verbal, nonverbal, attribute/skill) suggested that nonverbal cues were not often important to participants' uncertainty reduction (n=28, .094 of total references). In contrast, persons frequently pointed to attributes and skills (n= 137, .365 of total references), most often belonging to the partner (n=73), and to aspects of conversation (n=135, .448 of total references) as important influences to both target and conversational uncertainty. Internal examination of those categories revealed that "attributes and skills" comprised largely of socially relevant characteristics such as being interested, friendly, or nervous, together with interests usually shared by the partners such as children, travel, or a field of study. The "verbal" category included three major sub-groupings: the partner's question-asking, disclosure by the partner on a specific topic, and mutual conversation by the couple about a specific topic (see Table 2).

In regard to the research question, there was no evidence that persons place their own information-seeking at the center of uncertainty reduction. Participants rarely referred to their own conversation in general and provided no indication that their ability to "get to know" others or decide what to say and do in an initial meeting derives from a limited number of "key" information-seeking efforts in particular. In contrast, participants pointed

routinely to the effects of the partner's conversation, the attributes and skills of the partner, and the couple's ability to talk on topics of common interest.

Uncertainty Reduction as a Synchronous Process

The fourth research hypothesis posited that uncertainty reduction is synchronous; that is, both partners' uncertainty changes at or near the same point in the interaction. In order to test this hypothesis, the indications of change in both target and conversational uncertainty made by each partner were integrated to form a record of uncertainty changes within the dyad. The resulting composite records were given to two independent judges who were required to decide instances of synchrony. Synchronous changes were defined as changes that (1) occurred within the same set of topic-specific exchanges and (2) were seen to derive from a common event. Hence, not all temporally close pairwise changes were defined as synchronous. For example, in the following segment (participants 111 and 311), although partners reported decreases in uncertainty at the same point, examination of the conversational content suggests the decreases were consequences of topically different information.

Partner A: "What year are you?"

Partner B: "I'm a junior." (Partner A's target uncertainty changes)

Partner A: "What's your major?" (Partner B's conversational uncertainty changes)

The rate of interjudge agreement on the coding task was .99 (number of agreements divided by number of decisions: number of decisions = 1043) and the judges conferred to resolve cases of disagreement. The judges defined 236 cases of synchronous change; 213 occurred at the same speaking turn or at adjacent speaking turns, 18 were separated by a single speaking turn, and 5 were separated by two speaking turns. It is also significant that 767 of the 1043 changes in uncertainty were changes in target uncertainty or conversation uncertainty, suggesting that participants did not simply duplicate their response patterns across tasks.

Insert Table 4 about here

Of the 236 instances of synchronous change, 140 were instances of positive synchrony (i.e., both partners' uncertainty decreased at the same time), 11 were instances of negative synchrony (i.e., both partners' uncertainty increased at the same time), and 85 were instances of oppositional synchrony (i.e., both partners' uncertainty changed at the same time but in opposite directions). The likelihood of synchronous change was approximately .5 when either partner indicated change in target uncertainty (145/299=.485) or conversational uncertainty (236/468=.504). However, when either partner reported change in both target and conversational uncertainty, the likelihood of synchronous change increased substantially (91/138=.659). Notably, total synchrony (i.e., simultaneous change in both target and conversational uncertainty by both partners) was rare (n=7=.03 of all synchronous changes). Nonetheless, the overall rate of synchrony provided partial support for hypothesis 4 and does suggest that, in part, uncertainty reduction is a synchronous process.

Discussion

At the most general level, the present inquiry sought to describe the trajectory of uncertainty during initial interaction. In contrast to prior research, which has focused exclusively on persons' ability to generate predictions and explanations about interaction partners, a distinction was made between uncertainty about a partner (target uncertainty) and uncertainty about what to say and do (conversational uncertainty). Examination of participants' point estimates suggested that strangers are substantially more uncertain about each other than about conversational performance. Whereas participants' target uncertainty was acute when they first met, their conversational uncertainty reached only moderate levels and, although the discrepancy decayed across the interaction, persons remained considerably more uncertain about each other than about what to say and do. This is consistent with previous research that suggests recurrent participation in first meetings invests persons with expectations about both the content and structure of initial interaction (Berger, Gardner, Clatterbuck, & Schulman, 1976). Such participation, together with the ritualistic nature of preliminary conversation (Douglas, 1984; Kellermann, Broetzmann, Lim, & Katao, 1989), may attenuate uncertainty, at least about what to say and do; in contrast, because strangers

are literally unknown to each other, immediate ability to predict a partner is necessarily more limited.

While conversational uncertainty appears less severe and more constrained than uncertainty about cointerlocutors, it also appears more unstable; participants' uncertainty about what to say and do changed significantly more often than their uncertainty about the partner and was significantly more likely to increase. These effects may be due to a combination of factors. First, it is likely that persons' conversational uncertainty changes as an inverse function of topic knowledge. That is, interactants may become comparatively uncertain about what to say and do to the extent that others direct conversation into low - knowledge content domains. Detailed examination of participants' responses in the present study suggested this may occur minimally as a consequence of either strategic effort by an actor to fix conversation in an area of self expertise (e.g., "I started to talk about children. I love children, so I can talk about them forever." Participant 121) or actor attributes that appear to be presented non-strategically but produce, at least temporarily, disparate levels of expertise between actors (e.g., "When he told me his major, I didn't know what to say. I don't know anything about Computer Science." Participant 231). Second, it is possible that persons' conversational uncertainty becomes unstable as a function of the topical cyclicity that characterizes initial interaction. While persons are presumed to learn about others in an essentially linear way (e.g., Altman & Taylor, 1973), preliminary conversation is cyclical in that it involves repeated application of an elaboration code on a string of conversation topics (Kellermann et al., 1989). The ongoing need to generate new topics and to navigate topic-to-topic transitions may function to increase actors' conversational uncertainty. Indeed, in extreme cases, persons may literally run out of things to say at these junctures (Douglas, 1991). Finally, actors may be relatively aware of uncertainty about what to say and do and, so, more able to report changes in conversational uncertainty than in target uncertainty. That is, whereas attributions about cointerlocutors may evolve across conversation in an uncritical and untested way, actors' sense of what to say and do is at the surface of interaction. People are likely to feel that they know nothing about a partner's major and, so, have little to say or that they, too, are interested in basketball and, therefore, have a great deal to talk about. Hence, conversational uncertainty may be not only more volatile than uncertainty about

others but, because it is likely to be at the front of persons' minds during interaction, also more available in memory.

Previous studies of acquaintanceship have failed to establish conjunction between uncertainty (reduction) and amount of information-seeking (Douglas, 1987, 1990, 1994; Gudykunst, 1985; Gudykunst & Nishida, 1984; Gudykunst et al., 1987; Gudykunst et al., 1985; Kellermann, 1986) and the present analysis provided no substantial reason to suppose that uncertainty reduction relies either on a restricted but especially effective set of questions and/or disclosures. Participants rarely invoked aspects of their own performance as significant influences on either their target or conversational uncertainty and, while participants did point to the partner's question-asking with some regularity, they were just as likely to identify question-asking as a source of increased uncertainty or an obstacle to finding out about the partner as a factor involved in uncertainty reduction.

Together, such findings encourage the view that, while they may be capable of acting like information-seekers under instruction (e.g., Berger & Kellermann, 1983), under normal circumstances persons do not rely upon their own question-asking and disclosure as they "get to know" others. Indeed, the present analysis suggests that acquaintanceship involves two critical events; identification and development of topics of mutual interest (a significant factor in the reduction of conversational uncertainty) and narrative disclosure by partners on topics familiar or important to the discloser but not necessarily to the other (a significant factor in the reduction of target uncertainty). Two cautionary observations are in order, however. First, it is possible that actor-observer differences (Jones & Nisbett, 1972) predisposed participants to underestimate the causal significance of their own question-asking and disclosure (i.e., as causes of their uncertainty reduction). This argument is not especially compelling, however, because, even when persons did identify information-seeking activity as important (e.g., a partner's question-asking), they were likely to see the effects as negative. That is, any actor-observer effects may have been to reduce the frequency with which participants referenced their own information-seeking rather than to distort the role of that information-seeking in uncertainty reduction. Second, even if participants' judgments were veridical, that is even if question-asking and disclosure did not function to reduce uncertainty directly, it is probable that such activity influenced uncertainty indirectly. For

example, it seems likely that question-asking was part of the conversational sequences that allowed participants to locate common interests or talk about themselves. Likewise, persons' question-asking and disclosure activity may have contributed in an aggregate way to partners' attributions (e.g., interested, friendly, open) that were seen as important to uncertainty reduction. Notably, however, participants did not report such causality, suggesting that actors may be unable either to predict or retroactively determine the effects of information-seeking in general or in particular.

The present analysis suggested that uncertainty reduction is frequently synchronous across partners. In particular, synchrony between change in the target uncertainty of one partner and the conversational uncertainty of the other appears common; in the current study, changes of this kind occurred 4.29 times per conversation and accounted for over 75% of all instances of synchronous change. This suggests, again, that strangers' ability to generate narrative-disclosure opportunities for each other may be critical to acquaintanceship not because those disclosures necessarily compel a partner to reciprocate, as has been supposed (Berger, 1979), but because, on the one hand, they propel conversation (because they reduce the conversational uncertainty of one partner) and, on the other, they allow persons to "get to know" a partner (because the disclosures reduce the target uncertainty of the other partner). It is also likely that, in series, such exchanges solve the paradox of acquaintanceship; that is, initial interactants are presumed to rely on conversation, about which they are uncertain, to find out about others, about whom they are uncertain (Berger & Calabrese, 1975). The present study suggests that strangers cooperate to create situations in which one partner is minimally uncertain about what to say and do and acts in ways that increase the other's target-based attributional confidence, although it is not clear that such actions are self-consciously strategic.

Finally, it is worth noting that, although total synchrony was rare, complex synchrony (i.e., instances in which target and conversational uncertainty changes by one partner coincided with target or conversational uncertainty chances by the other) was fairly common, occurring approximately twice in each four-minute conversation. What is more, concurrent change in target and conversational uncertainty by one partner was associated with an increased likelihood of change (in either target or conversational uncertainty) by the other,

suggesting that acquaintanceship may be constructed, in part, on a critical moments model. It is not clear from the present research whether interactants recognize complex synchrony nor whether complex synchrony has significant relational implications. For example, it is not apparent from the present analysis whether such moments influence uncertainty reduction in a dyad disproportionately; nor is it clear whether such moments are effectively significant and, so, exert special influence on partners' liking for each other.

The present inquiry suggests, first, the usefulness of distinguishing between uncertainty about a partner and uncertainty about conversational performance. Not only do these two types of uncertainty appear to follow dissimilar trajectories across the course of initial interaction, they also appear to fulfill related but separate functions as strangers seek to "get to know" each other. Specifically, conversational sequences that allow one partner to become relatively certain about what to say and do (usually by talking about an aspect of the self) are often associated with reduction in target uncertainty by the cointerlocutor. That is, uncertainty reduction is often synchronous across partners. This suggests that uncertainty reduction is a dyadic process in which partners cooperate to sustain conversation and, thereby, facilitate mutual target uncertainty reduction. A more explicit test of this model is required, however, for at least two reasons. First, participants in the present study did not articulate this process although they did routinely point to the importance of uncovering "common ground," a circumstance that is consistent with a dyadic approach to acquaintanceship. Second, because the analysis relied on audiotaped recordings of the conversations, it is possible that the role of verbal factors (central to a dyadic view of uncertainty reduction) was overestimated. Some previous research (e.g., Douglas, 1990, 1994) has indicated that actors' immediate ability to reduce their uncertainty derives, in part, from molar visual cues, such as gender and ethnicity, which were not presented in the current analysis.

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Table 1

Factors Affecting Conversational and Target Uncertainty

	Self	Partner	Dyad	Situation
Verbal	5,2	43,39	12,33	0,0
Nonverbal	0,0	4,21	0,3	0,0
Attribute/skill	3,7	38,35	7,19	24,4

Note. The first score indicates the frequency with which the category was invoked as an influence on target uncertainty; the second score indicates the frequency with which the category was invoked as an influence on conversational uncertainty.

Table 2

Verbal Factors Affecting Conversational and Target Uncertainty

	Self	Partner	Dyad
Question-asking			
1. Asked specific questions	0,0	1,6	1,0
2. Asked few/many questions	1,0	8,11	0,0
Conversation management			
1. Talked about specific topic	1,0	24,6	7,27
2. Initiated/led conversation	3,1	4,10	0,0
3. Talked a little/lot	0,1	6,4	1,1
4. Used a specific strategy	0,0	0,2	4,4

Note. The first score indicates the frequency with which the category was invoked as an influence on target uncertainty; the second score indicates the frequency with which the category was invoked as an influence on conversational uncertainty.

Table 3

Target and Conversation Uncertainty Across Interaction:

Means and Standard deviations

	Target	Conversation
Prior to meeting	21.05(5.66)	11.69(6.81)
After one minute of interaction	15.62(6.43)	10.24(6.35)
After two minutes of interaction	13.45(6.23)	8.31(6.37)
After three minutes of interaction	11.56(6.01)	7.27(5.79)
After four minutes of interaction	10.10(5.67)	5.55(5.11)

Table 4

Within-dyad Changes in Target and Conversational Uncertainty

	Partner A			
Partner B	Target	Conversation	Target and Conversation	None
Target	10	43	13	79
Conversation	53	46	22	116
Target & conversation	16	26	7	21
None	75	116	26	

Note. The scores reflect the pattern of changes in uncertainty across partners. For example, on 10 occasions both partners' target uncertainty changed at the same point in the conversation, on 96 (53+43) occasions one partner's conversation uncertainty changed at the same point in the conversation as the other partner's target uncertainty, and so on.